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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,939	11/04/2003	David J. Ecker	ISIS-5318	5964

32650 7590 05/25/2006

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EXAMINER	
WOLLENBERGER, LOUIS V	

ART UNIT	PAPER NUMBER
1635	

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/700,939	ECKER ET AL.	
	Examiner	Art Unit	
	Louis V. Wollenberger	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-83* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-83* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-10, drawn to a composition comprising first and second oligomers wherein at least one of the oligomers has a non-linear secondary structure or is part of a multiple oligomer assembly, classifiable in class 536, subclass 24.5.

II. Claims 1, 11, 13-14 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer having a non-linear secondary structure is a circular oligomer, classifiable in class 536, subclass 24.5.

III. Claims 1, 12 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer having a non-linear secondary structure is a circular oligomer that cannot convert to a linear oligomer, classifiable in class 536, subclass 24.5.

IV. Claims 1, 15-17, 19-20 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer having a non-linear secondary structure is a stem loop oligomer that can be formulated based on thee structure depicted in claim 15, classifiable in class 536, subclass 24.5.

V. Claims 1, 18 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer having a non-linear secondary structure is an oligomer that hybridizes with RNA to form a pseudo half knot, classifiable in class 536, subclass 24.5.

VI. Claims 1, 21 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a nucleic acid multimer that is a star shaped nucleic acid multimer (see section [0149], instant specification), classifiable in class 536, subclass 24.5.

VII. Claims 1, 22 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a polynucleic acid structure that is a triangular nucleic acid multimer (see section [0154], instant specification), classifiable in class 536, subclass 24.5.

VIII. Claims 1, 23 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a branched nucleic acid multimer (see section [0157], instant specification), classifiable in class 536, subclass 24.5.

IX. Claims 1, 24 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is

part of a dendritic nucleic acid multimer (see section [0158], instant specification), classifiable in class 536, subclass 24.5.

X. Claims 1, 25 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a nucleic acid multimer that hybridizes in a T-shape (see section [0161], instant specification), classifiable in class 536, subclass 24.5.

XI. Claims 1, 26 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a multiple oligonucleotide matrix (see section [0163], instant specification), classifiable in class 536, subclass 24.5.

XII. Claims 1, 27 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a self ligating multiple component oligonucleotide (see section [0164], instant specification), classifiable in class 536, subclass 24.5.

XIII. Claims 1, 28 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a 5'-3'----5'-3' bis RNA linked via a cleavable linker (see section [0168], instant specification), classifiable in class 536, subclass 24.5.

XIV. Claims 1, 29 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a bis oligonucleotide having binding moieties covalently linked to the oligonucleotides (see section [0170], instant specification), classifiable in class 536, subclass 24.5.

XV. Claims 1, 30 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a bis-double stranded oligonucleotide with a linker to a solid support (see section [0179], instant specification), classifiable in class 536, subclass 24.5.

XVI. Claims 1, 31 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a dual stranded oligomeric compound having partial overlap and a restriction endonuclease recognition site (see section [0185], instant specification), classifiable in class 536, subclass 24.5.

XVII. Claims 1, 32 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a multiple oligomer assembly comprising first and second nucleotide sequences that are complementary to non-contiguous portions of a target

nucleotide sequence and a means for covalently attaching the first and second sequences (see section [0186, instant specification), classifiable in class 536, subclass 24.5.

XVIII. Claims 1, 33 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a multiple oligomer assembly wherein first and second oligomers are joined by a third bridging nucleic acid oligomer by hybridization (see section [0199], instant specification), classifiable in class 536, subclass 24.5.

XIX. Claims 1, 34 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a multiple oligomer assembly comprising sugar crosslinked oligonucleotides (see section [0204], instant specification, classifiable in class 536, subclass 24.5.

XX. Claims 1, 35 and 36, drawn to a composition comprising first and second oligomers wherein the oligomer that is part of a multiple oligomer assembly is part of a multiple oligomer assembly comprising Streptavidin/biotinylated self assembling oligonucleotides (see section [0208], instant specification, classifiable in class 536, subclass 24.5.

XXI. Claims 37 and 38, drawn to a method of modulating expression of a target nucleic acid or of treating or preventing a disease comprising contacting a cell or administering to an animal the composition of claim 1, classifiable in class 514, subclass 44.

XXII. Claims 39-46 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex (RISC) wherein the oligomer has a non-linear secondary structure or is part of a multiple oligomer assembly, classifiable in class 530, subclass 350+.

XXIII. Claims 39, 47, 49-50 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is a circular oligomer, classifiable in class 530, subclass 350+.

XXIV. Claims 39, 48 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is a circular oligomer that cannot convert to a linear oligomer, classifiable in class 530, subclass 350+.

XXV. Claims 39, 51-53, 55-56 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is a stem loop oligomer that can be formulated based on thee structure depicted in claim 51, classifiable in class 530, subclass 350+.

XXVI. Claims 39, 54 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is an oligomer that hybridizes with RNA to form a pseudo half knot, classifiable in class 530, subclass 350+.

XXVII. Claims 39, 57 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a nucleic acid multimer that is a star shaped nucleic acid multimer (see section [0148], instant specification), classifiable in class 530, subclass 350+.

XXVIII. Claims 39, 58 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a

polynucleic acid structure that is a triangular nucleic acid multimer (see section [0154], instant specification), classifiable in class 530, subclass 350+.

XXIX. Claims 39, 59 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a branched nucleic acid multimer (see section [0157], instant specification), classifiable in class 530, subclass 350+.

XXX. Claims 39, 60 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a dendritic nucleic acid multimer (see section [0159], instant specification), classifiable in class 530, subclass 350+.

XXXI. Claims 39, 61 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a nucleic acid multimer that hybridizes in a T-shape (see section [0161], instant specification), classifiable in class 530, subclass 350+.

XXXII. Claims 39, 62 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a multiple oligonucleotide matrix (see section [0164], instant specification), classifiable in class 530, subclass 350+.

XXXIII. Claims 39, 63 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a self ligating multiple component oligonucleotide (see section [0165], instant specification), classifiable in class 530, subclass 350+.

XXXIV. Claims 39, 64 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a 5'-3'----5'-3' bis RNA linked via a cleavable linker (see section [0168], instant specification), classifiable in class 530, subclass 350+.

XXXV. Claims 39, 65 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a bis oligonucleotide having binding moieties covalently linked to the

oligonucleotides (see section [0170], instant specification), classifiable in class 530, subclass 350+.

XXXVI. Claims 39, 66 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a bis-double stranded oligonucleotide with a linker to a solid support (see section [0179], instant specification), classifiable in class 530, subclass 350+.

XXXVII. Claims 39, 67 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a dual stranded oligomeric compound having partial overlap and a restriction endonuclease recognition site (see section [0185], instant specification), classifiable in class 530, subclass 350+.

XXXVIII. Claims 39, 68 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a multiple oligomer assembly comprising first and second nucleotide sequences that are complementary to non-contiguous portions of a target nucleotide sequence

and a means for covalently attaching the first and second sequences (see section [0186, instant specification), classifiable in class 530, subclass 350+.

XXXIX. Claims 39, 69 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a multiple oligomer assembly wherein first and second oligomers are joined by a third bridging nucleic acid oligomer by hybridization (see section [0199], instant specification), classifiable in class 530, subclass 350+.

XL. Claims 39, 70 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a multiple oligomer assembly comprising sugar crosslinked oligonucleotides (see section [0204], instant specification, classifiable in class 530, subclass 350+.

XLI. Claims 39, 71 and 72, drawn to a composition comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex wherein the oligomer is part of a multiple oligomer assembly comprising Streptavidin/biotinylated self assembling oligonucleotides (see section [0208], instant specification, classifiable in class 530, subclass 350+.

XLII. Claims 73 and 74, drawn to a method of modulating expression of a target nucleic acid or of treating or preventing a disease comprising contacting a cell or administering to an animal the composition of claim 39, classifiable in class 514, subclass 44.

XLIII. Claims 75-81, drawn to an oligomer having a non-linear secondary structure or that is part of a multiple oligomer assembly, classifiable in class 536, subclass 24.5.

XLIV. Claims 82 and 83, drawn to a method of modulating expression of a target nucleic acid or of treating or preventing a disease comprising contacting a cell or administering to an animal the oligomer of claim 75, classifiable in class 514, subclass 44.

Linked Inventions

Claim 1 link(s) inventions of groups I-XX. The restriction requirement among the linked inventions is subject to the nonallowance of the linking claim(s), claim 1. Claim 39 link(s) inventions of groups XXII-XLI. The restriction requirement among the linked inventions is subject to the nonallowance of the linking claim(s), claim 39. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking

claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

The inventions are distinct, each from the other because of the following reasons:

Inventions in groups I-XX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions of groups I-XX are each drawn to compositions comprising first and second oligomers wherein at least one of the oligomers has a non-linear secondary structure or is part of a multiple oligomer assembly wherein the oligomer that has a non-linear secondary structure or is part of a multiple oligomer assembly is set forth as requiring a particular structure that is required for the particular function of that oligomer. The oligomer of group I, that has a non-linear secondary structure or is part of a multiple oligomer assembly, can be a linear oligomer because, as claimed, it is part of a multiple oligomer assembly in that it hybridizes to the other oligomer in the composition, for example. The oligomer of group II, that has a non-linear secondary structure or is part of a multiple oligomer assembly, is required to be a circular oligomer, for example. The oligomer of group III, that has a non-linear secondary structure or is part of a

multiple oligomer assembly, is required to be a circular oligomer that cannot convert to a linear oligonucleotide, for example. Each of the remaining groups, IV-XX, is distinguished in the same manner, in that each composition functions based on the requirement for a particular structure of the oligomer that has a non-linear secondary structure or is part of a multiple oligomer assembly that is listed in each group and that is distinguished in the sections indicated in the instant specification.

Moreover, searching any of the inventions of groups I-XX together would impose a serious and undue search burden. In the instant case, prior art searches of each composition are not coextensive and must be based on the requirement for a particular structure of the oligomer that has a non-linear secondary structure or is part of a multiple oligomer assembly that is listed in each group and that is distinguished in the sections indicated in the instant specification. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and each search would then require subsequent in-depth analysis of all relevant prior art literature in terms of identifying the particular structure of the oligomer that has a non-linear secondary structure or is part of a multiple oligomer assembly that is listed in each group and that is distinguished in the sections indicated in the instant specification, placing an undue and serious burden on the Office in terms of both search and examination. As such, it would be burdensome to perform search and examination of any of the inventions of groups I-XX together.

Inventions in groups I and XXI are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the

product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the process for using the product as claimed can be practiced with another materially different product which would be an antisense nucleic acid modulator of gene expression

Furthermore, searching the inventions of groups I and XXI together would impose a serious and undue burden. In the instant case, prior art searches of the composition and of methods of inhibiting gene expression or of treatment comprising administering the claimed compositions, are not coextensive. Search of each of these inventions would require different key word searches of composition and the method and would include, at least, a search for the distinctive steps required by the method that would not be required by the composition. These searches would need to be performed in divergent patent and non-patent literature databases. The different searches would then require subsequent in-depth analysis of the unrelated prior art literature, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform a search and examination of the inventions of groups I and XXI together.

Inventions of groups XXII-XLI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions of groups XXII-XLI are each drawn to compositions comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex (RISC) wherein the oligomer has a non-linear secondary structure or is part of a multiple oligomer assembly wherein the oligomer that has a non-linear secondary structure or

is part of a multiple oligomer assembly is set forth as requiring a particular structure that is required for the particular function of that oligomer. The oligomer of group XXII, that has a non-linear secondary structure or is part of a multiple oligomer assembly, can be a linear oligomer because, as claimed, it is part of a multiple oligomer assembly in that it hybridizes to the other oligomer in the composition, for example. The oligomer of group XXIII, that has a non-linear secondary structure or is part of a multiple oligomer assembly, is required to be a circular oligomer, for example. The oligomer of group XXIV, that has a non-linear secondary structure or is part of a multiple oligomer assembly, is required to be a circular oligomer that cannot convert to a linear oligonucleotide, for example. Each of the remaining groups, XXV-XLI, is distinguished in the same manner, in that each composition functions based on the requirement for a particular structure of the oligomer that has a non-linear secondary structure or is part of a multiple oligomer assembly that is listed in each group and that is distinguished in the sections indicated in the instant specification.

Moreover, searching any of the inventions of groups XXII-XLI together would impose a serious and undue search burden. In the instant case, prior art searches of each composition are not coextensive and must be based on the requirement for a particular structure of the oligomer that has a non-linear secondary structure or is part of a multiple oligomer assembly that is listed in each group and that is distinguished in the sections indicated in the instant specification. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and each search would then require subsequent in-depth analysis of all relevant prior art literature in terms of identifying the particular structure of the oligomer that has a non-linear secondary structure or is part of a multiple oligomer assembly that

is listed in each group and that is distinguished in the sections indicated in the instant specification, placing an undue and serious burden on the Office in terms of both search and examination. As such, it would be burdensome to perform search and examination of any of the inventions of groups XXII-XLI together.

Inventions in groups II-XX and XXII-XLI and the invention of group XXI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, each of the different inventions of groups II-XX function to provide a composition comprising first and second oligomers wherein at least one of the oligomers has a non-linear secondary structure or is part of a multiple oligomer assembly wherein the oligomer that has a particular and claimed non-linear secondary structure or is part of a particular and claimed multiple oligomer assembly has the mode of operation of that composition that is based on the oligomer that has the particular and claimed non-linear secondary structure or that is part of the particular and claimed multiple oligomer assembly. The different inventions of groups XXII-XLI function to provide a compositions comprising an oligomer complementary to a target nucleic acid and at least one protein comprising at least a portion of a RNA inducing silencing complex (RISC) wherein the oligomer has a particular and claimed non-linear secondary structure or is part of a particular and claimed multiple oligomer assembly wherein the mode of operation of the oligomer that has the particular and claimed non-linear secondary structure or is part of the particular and claimed multiple oligomer assembly is based on the particular and claimed structure of that oligomer. The invention of group XXI functions to provide a method of inhibiting gene expression and operates based on the particular structure of the composition of

claim 1, which, does not require the particular structures that the operation of inventions in groups II-XX or XXII-XLI require.

Furthermore, searching any of the inventions of groups II-XX or XXII-XLI together with the invention of group XXI would impose a serious and undue burden. In the instant case, prior art searches of each composition and of the method of using a composition that does not require the particular and claimed structural elements that are required for the compositions, are not coextensive. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and would require, at least, a search for particular steps required by the method that would not be required by each composition. Each search would then require subsequent in-depth analysis of all relevant prior art literature, placing an undue and serious burden on the Office in terms of both search and examination. As such, it would be burdensome to perform search and examination of any of the inventions of groups II-XX or XXII-XLI together with the invention of group XXI.

Inventions in groups XXII and XLII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using that product which would be an in vitro assay to determine sequence specific mRNA degradation in the presence of a candidate inhibitor of a RISC protein.

Furthermore, searching the inventions of groups XXII and XLII together would impose a serious and undue burden. In the instant case, prior art searches of the composition and of

methods of inhibiting gene expression or of treatment comprising administering the claimed compositions, are not coextensive. Search of each of these inventions would require different key word searches of composition and the method and would include, at least, a search for the distinctive steps required by the method that would not be required by the composition. These searches would need to be performed in divergent patent and non-patent literature databases. The different searches would then require subsequent in-depth analysis of the unrelated prior art literature, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform a search and examination of the inventions of groups XXII and XLII together.

Inventions of groups I-XX and groups XXII-XLI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions are not disclosed as capable of use together and have different functions and modes of operation. The different inventions of groups I-XX each provide a composition comprising two oligomers wherein at least one of the oligomers has a non-linear secondary structure or is part of a multiple oligomer assembly. Each of these compositions operates based on the hybridization of the first and second oligomers to each other to recruit proteins of the RISC complex to mediate RNA interference and functions based on the particular structure of the oligomer that has a non-linear secondary structure or that is part of a multiple oligomer assembly, wherein that particular structure is required for the particular function of that oligomer within the composition as a whole. The different inventions of groups XXII-XLII each provide a composition comprising an oligomer complementary to a target nucleic acid and at least one

protein comprising at least a portion of a RNA inducing silencing complex (RISC) wherein the oligomer has a non-linear secondary structure or is part of a multiple oligomer assembly. Each of these compositions operates based on the hybridization of the first oligomer to the target nucleic acid and can operate without recruiting proteins of the RISC complex to mediate RNA interference and will function based on the particular structure of the oligomer that has a non-linear secondary structure or that is part of a multiple oligomer assembly, wherein that particular structure is required for the particular function of that oligomer within the composition as a whole. The compositions are distinguished from each other by their mode of operation based on the ability of each set of compositions to mediate RNA interference, either directly or indirectly.

Furthermore, searching any of inventions of groups I-XXI together any of the inventions of groups XXII-XLI would impose a serious and undue search burden. In the instant case, prior art searches of each composition are not coextensive and would require, at least, a search for particular structural limitations of particular oligomers in combination with particular RISC proteins that would be required by a search of inventions XXII-XLI that would not be required by searches of any of the inventions in groups I-XXI. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases. Each search would then require subsequent in-depth analysis of all relevant prior art literature, placing an undue and serious burden on the Office in terms of both search and examination. As such, it would be burdensome to perform search and examination of any of inventions of groups I-XXI together any of the inventions of groups XXII-XLI.

Inventions in groups I-XXI and XXIII-XLI and the invention of group XLII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use

together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, each of the different inventions of groups I-XX and XXIII-XLI function to provide different compositions as above. The invention of group XLII functions to provide a method of inhibiting gene expression and operates based on the particular structure of the composition of claim 39, which, does not require the particular structures that the operation of inventions in groups I-XX or XXIII-XLI require. The invention of group XLII is also distinguished from the invention of group XXI by mode of operation. The invention of group XXI operates based on the hybridization of the first and second oligomers to each other to recruit proteins of the RISC complex to mediate RNA interference. The invention of group XLII operates based on the hybridization of the first oligomer to the target nucleic acid and can operate without recruiting proteins of the RISC complex to mediate RNA interference.

Furthermore, searching any of the inventions of groups I-XXI or XXII-XLI together with the invention of group XLII would impose a serious and undue burden. In the instant case, prior art searches of each composition and of the method of using a composition that does not require the particular and claimed structural elements that are required for the compositions, are not coextensive. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and would require, at least, a search for particular steps required by the method that would not be required by each composition. Each search would then require subsequent in-depth analysis of all relevant prior art literature, placing an undue and serious burden on the Office in terms of both search and examination. As such, it would be burdensome to perform search and examination of any of the inventions of groups I-XXI or XXIII-XLI together with the invention of group XLII.

Inventions of groups I-XLII and the invention of group XLIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions of groups are distinguished by their functions and/or modes of operation. The inventions of groups I-XX and XII-XL each function and operate based on the particular structures of the particular and claimed oligomers comprised in the compositions. The inventions of groups XXI and XLI each function to provide a method of gene inhibition and each operates based on the particular structure of the particular and claimed oligomer required by the method as set forth in claims 1 and 39 respectively. The invention of group XLIII, as claimed, can be constructed to function and operate catalytically, as a ribozyme, a particular structure not required by other inventions.

Furthermore, searching any of the inventions of groups I-XLI together with the invention of group XLII would impose a serious and undue search burden. In the instant case, prior art searches of each composition and each method are not coextensive for the reasons given above with regards to the requirement to search for particular and claimed structural limitations that are unique to each invention. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and would require, at least, a search for particular steps required by each method that would not be required by each composition and for particular structures of each composition that would not be required in a search of the other compositions. Each search would then require subsequent in-depth analysis of all relevant prior art literature, placing an undue and serious burden on the Office in terms of

both search and examination. As such, it would be burdensome to perform search and examination of any of the inventions of groups I-XLI together with the invention of group XLII.

Inventions of groups XLIII and XLIV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using that product which would be a comparative in vitro assay of mRNA degradation performed to identify candidate inhibitors of ribozyme function.

Furthermore, searching the inventions of groups XLIII and XLIV together would impose a serious and undue burden. In the instant case, prior art searches of the composition and of methods comprising administering the claimed composition, are not coextensive. Search of each of these inventions would require different key word searches of the composition and would include, at least, a search for the distinctive steps required by the method that would not be required by the composition. These searches would need to be performed in divergent patent and non-patent literature databases. The different searches would then require subsequent in-depth analysis of the unrelated prior art literature, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform a search and examination of the inventions of groups XLIII and XLIV together.

Inventions of groups I-XLII and the invention of group XLIV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the

instant case the different inventions of groups are distinguished by their functions and/or modes of operation. The inventions of groups I-XX and XII-XL each function and operate based on the particular structures of the particular and claimed oligomers comprised in the compositions. The inventions of groups XXI and XLI each function to provide a method of gene inhibition and each operates based on the particular structure of the particular and claimed oligomer required by the method as set forth in claims 1 and 39 respectively. The invention of group XLIV, as claimed, functions and operates as a method that can employ a ribozyme, a particular structure not required by other inventions.

Furthermore, searching any of the inventions of groups I-XLII together with the invention of group XLIV would impose a serious and undue search burden. In the instant case, prior art searches of each composition and each method are not coextensive for the reasons given above with regards to the requirement to search for particular and claimed structural limitations that are unique to each invention. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and would require, at least, a search for particular steps required by each method that would not be required by each composition and for particular structures of each composition that would not be required in a search of the other compositions. Each search would then require subsequent in-depth analysis of all relevant prior art literature, placing an undue and serious burden on the Office in terms of both search and examination. As such, it would be burdensome to perform search and examination of any of the inventions of groups I-XLII together with the invention of group XLIV.

Because these inventions are distinct for the reasons given above, have acquired a separate status in the art and would require divergent searches of sequence and literature databases placing an undue administrative burden on the examiner, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully

examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996).

Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Conclusion

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis V. Wollenberger whose telephone number is 571-272-8144. The examiner can normally be reached on M-F, 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras, can be reached on (571)272-4517. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Louis V. Wollenberger, Ph.D.

Examiner, Art Unit 1635

May 1, 2006

SEAN McGARRY
PRIMARY EXAMINER
1635